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=> s phytopathogenic

L1 6285 PHYTOPATHOGENIC

=> s exopolysaccharide

L2 3909 EXOPOLYSACCHARIDE

=> s l1 and l2

L3 38 L1 AND L2

=> s l3 and inactivat?

L4 1 L3 AND INACTIVAT?

=> d l4 bib ab

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:911435 CAPLUS

DN 134:68699

TI Avirulent Xanthomonas campestris mutants for xanthan production

IN Pierrard, Jerome; Simon, Jean-Luc; Chevallereau, Paule

PA Rhodia Chimie, Fr.

SO PCT Int. Appl., 33 pp.

CODEN: PIXXD2

DT Patent

LA French

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000078967	A1	20001228	WO 2000-FR1725	20000621
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
FR 2795423	A1	20001229	FR 1999-7963	19990622
FR 2795423	B1	20030425		
BR 2000011889	A	20020305	BR 2000-11889	20000621

EP 1190062                    A1        20020327        EP 2000-951637                    20000621  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO  
 JP 2003503025                    T2        20030128        JP 2001-505709                    20000621  
 PRAI FR 1999-7963                    A        19990622  
 WO 2000-FR1725                    W        20000621  
 AB    The invention concerns a bacterial strain which has lost its  
       \*\*\*phytopathogenic\*\*\* character by    \*\*\*inactivation\*\*\* of at least  
       one virulence gene and preserved its capacity for producing  
       \*\*\*exopolysaccharide\*\*\* . Thus, genes hrpA1-hrpC2 of X. campestris were  
       deleted by homologous recombination. The resulting mutant was not  
       \*\*\*phytopathogenic\*\*\* and produced normal levels of xanthan.  
 RE.CNT 4        THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
                  ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

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FILE 'BIOSIS, CAPLUS' ENTERED AT 23:01:40 ON 04 AUG 2004

L1            6285 S PHYTOPATHOGENIC  
 L2            3909 S EXOPOLYSACCHARIDE  
 L3            38 S L1 AND L2  
 L4            1 S L3 AND INACTIVAT?

=> s pathogen? and inactivat? and (hrp or hrc)  
 L5            17 PATHOGEN? AND INACTIVAT? AND (HRP OR HRC)

=> s 15 not 14  
 L6            17 L5 NOT L4

=> s 16 and xanthomonas  
 L7            2 L6 AND XANTHOMONAS

=> d 17 bib ab 1-2

L7    ANSWER 1 OF 2 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 AN    2004:47466 BIOSIS  
 DN    PREV200400040123  
 TI    Characterization of the    \*\*\*hrp\*\*\*        \*\*\*pathogenicity\*\*\* cluster of  
       Erwinia carotovora subsp. carotovora: High basal level expression in a  
       mutant is associated with reduced virulence.  
 AU    Lehtimaki, S.; Rantakari, A.; Routtu, J.; Tuikkala, A.; Li, J.;  
       Virtaharju, O.; Palva, E. T.; Romantschuk, M.; Saarilahti, H. T. [Reprint  
       Author]  
 CS    Division of Genetics, Department of Biosciences, University of Helsinki,  
       FIN-00014, P.O.B. 56, Helsinki, Finland  
       hannu.saarilahti@helsinki.fi  
 SO    MGG Molecular Genetics and Genomics, (November 2003) Vol. 270, No. 3, pp.  
       263-272. print.  
       ISSN: 1617-4615 (ISSN print).  
 DT    Article  
 LA    English  
 ED    Entered STN: 14 Jan 2004  
       Last Updated on STN: 14 Jan 2004  
 AB    Extracellularly targeted proteins are crucial for virulence of

gram-negative phytopathogenic bacteria. *Erwinia carotovora* subsp. *carotovora* employs the so-called type II (GSP) pathway to secrete a number of pectinases and cellulases, which cause the typical tissue maceration symptoms of soft-rot disease. The type III ( **\*\*\*hrp\*\*\*** ) pathway is the major virulence determinant in the genera *Pseudomonas*, *Ralstonia* and **\*\*\*Xanthomonas\*\*\*** , and in non-macerating species of *Erwinia*. The **\*\*\*hrp\*\*\*** cluster was recently partially characterized from *E. carotovora* sp. *carotovora*, and shown to affect virulence during early stages of infection. Here we have isolated and characterized 15 **\*\*\*hrp\*\*\*** genes comprising the remaining part of the cluster. The

genes

*hrpL*, *hrpXY* and *hrpS* were deduced to be transcribed as separate units, whereas the 11 remaining genes from *hrpJ* to *hrcU* form a single large operon. The *hrpX* gene, which codes for the sensory kinase of the two-component regulatory locus *hrpXY* was insertionally **\*\*\*inactivated\*\*\*** by placing a transposon (entranceposon) in the gene. The resulting mutant bacterium expresses the **\*\*\*hrp\*\*\*** genes at high basal level even in a non-inducing medium. This relative overexpression was shown to be due to the *hrpX::entranceposon* insertion causing enhanced transcription of the downstream *hrpY* gene. The *hrpX--hrpYC* mutant bacterium exhibited a slower growth rate and the appearance of disease symptoms in infected *Arabidopsis* plants was delayed, as compared to the wild-type strain. The need for **\*\*\*hrp\*\*\*** gene expression for virulence has been documented in both non-macerating plant **\*\*\*pathogens\*\*\*** and in soft-rotting *Erwinia* sp. but this is the first demonstration that high basal-level expression of **\*\*\*hrp\*\*\*** -regulated genes may actually have a negative impact on

disease

progress in a susceptible host plant.

L7 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:924229 CAPLUS

DN 140:211691

TI Characterization of the **\*\*\*hrp\*\*\*** **\*\*\*pathogenicity\*\*\*** cluster of *Erwinia carotovora* subsp. *carotovora*: high basal level expression in a mutant is associated with reduced virulence

AU Lehtimaeki, S.; Rantakari, A.; Routtu, J.; Tuikkala, A.; Li, J.; Virtaharju, O.; Palva, E. T.; Romantschuk, M.; Saarilahti, H. T.

CS Department of Biosciences, Division of Genetics, University of Helsinki, Helsinki, FIN-00014, Finland

SO Molecular Genetics and Genomics (2003), 270(3), 263-272  
CODEN: MGGOAA; ISSN: 1617-4615

PB Springer-Verlag

DT Journal

LA English

AB Extracellularly targeted proteins are crucial for virulence of gram-neg. phytopathogenic bacteria. *Erwinia carotovora* subsp. *carotovora* employs the so-called type II (GSP) pathway to secrete a no. of pectinases and cellulases, which cause the typical tissue maceration symptoms of soft-rot disease. The type III ( **\*\*\*hrp\*\*\*** ) pathway is the major virulence determinant in the genera *Pseudomonas*, *Ralstonia* and **\*\*\*Xanthomonas\*\*\*** , and in non-macerating species of *Erwinia*. The **\*\*\*hrp\*\*\*** cluster was recently partially characterized from *E. carotovora* sp. *carotovora*, and shown to affect virulence during early stages of infection. Here the authors have isolated and characterized 15 **\*\*\*hrp\*\*\*** genes comprising the remaining part of the cluster. The genes *hrpL*, *hrpXY* and *hrpS* were deduced to be transcribed as sep. units, whereas the 11 remaining genes from *hrpJ* to *hrcU* form a single large operon. The *hrpX* gene, which codes

for the sensory kinase of the two-component regulatory locus hrpXY was insertionally \*\*\*inactivated\*\*\* by placing a transposon (entranceposon) in the gene. The resulting mutant bacterium expresses the \*\*\*hrp\*\*\* genes at high basal level even in a non-inducing medium.

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RE.CNT 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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	ENTRY	SESSION
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